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NOTICE OF ALLOWANCE AND FEE(S) DUE

23696

7590

05/10/2006

QUALCOMM, INC 5775 MOREHOUSE DR. SAN DIEGO, CA 92121

EXAMINER				
NGUYEN, PHU	ONGCHAU BA			
ART UNIT	PAPER NUMBER			

DATE MAILED: 05/10/2006

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851 655	05/08/2001	Enhraim Zehavi	OCPA181ACAC	4201

TITLE OF INVENTION: METHOD AND APPARATUS FOR PROVIDING VARIABLE RATE DATA IN A COMMUNICATIONS SYSTEM USING NON-ORTHOGONAL OVERFLOW CHANNELS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400	\$300	\$1700	08/10/2006

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE REFLECTS A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE APPLIED IN THIS APPLICATION. THE PTOL-85B (OR AN EQUIVALENT) MUST BE RETURNED WITHIN THIS PERIOD EVEN IF NO FEE IS DUE OR THE APPLICATION WILL BE REGARDED AS ABANDONED.

HOW TO REPLY TO THIS NOTICE:

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If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.
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If the SMALL ENTITY is shown as NO:

- A. Pay TOTAL FEE(S) DUE shown above, or
- B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.
- II. PART B FEE(S) TRANSMITTAL should be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). Even if the fee(s) have already been paid, Part B Fee(s) Transmittal should be completed and returned. If you are charging the fee(s) to your deposit account, section "4b" of Part B Fee(s) Transmittal should be completed and an extra copy of the form should be submitted.
- III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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Complete and send this form, together with applicable fee(s), to: Mail Stop ISSUE FEE
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23696 75	90 05/10/2006			nave its own certif	icate of mailing or transmission	
QUALCOMM, II 5775 MOREHOUS SAN DIEGO, CA	SE DR.			I hereby certify the States Postal Servi addressed to the transmitted to the	Certificate of Mailing or Tran at this Fee(s) Transmittal is bei ice with sufficient postage for fi Mail Stop ISSUE FEE addres USPTO (571) 273-2885, on the	ismission ng deposited with the United irst class mail in an envelope s above, or being facsimile date indicated below
,						(Depositor's name)
					·	(Signature)
						(Date)
APPLICATION NO.	FILING DATE	1	FIRST NAMED	INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,655	05/08/2001		Ephraim :	Zehavi	QCPA181ACAC	4391
TITLE OF INVENTION: NON-ORTHOGONAL OV		US FOR PROVID	DING VARIAI	BLE RATE DATA IN A	COMMUNICATIONS SYSTE	EM USING
APPLN. TYPE	SMALL ENTITY	ISSUE FE	BE	PUBLICATION FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1400		\$300	\$1700	08/10/2006
EXAM	IINER	ART UN	IT	CLASS-SUBCLASS		
NGUYEN, PHU	ONGCHAU BA	2616		370-335000		
CFR 1.363). Change of correspond Address form PTO/SB/12 "Fee Address" indicate	e address or indication of "Fo lence address (or Change of (22) attached. ion (or "Fee Address" Indica or more recent) attached. Use	Correspondence	(1) the nam or agents O (2) the nam registered a 2 registered	ing on the patent front pages of up to 3 registered pages. A alternatively, e of a single firm (having titorney or agent) and the patent attorneys or agent ame will be printed.	as a member a names of up to	
PLEASE NOTE: Unless recordation as set forth in (A) NAME OF ASSIGN		clow, no assignee of this form is NOT	data will apper a substitute fo (B) RESIDEN	ar on the patent. If an as or filing an assignment. ICE: (CITY and STATE (signee is identified below, the DR COUNTRY)	
	enclosed: mall entity discount permitte Copics	·d)	Payment b	ce(s): the amount of the fee(s) by credit card. Form PTO-2	is enclosed.	
"	(from status indicated above)				
	MALL ENTITY status. See		b. Applica	nt is no longer claiming S	MALL ENTITY status. See 37	CFR 1.27(g)(2).
NOTE: The Issue Fee and Ponterest as shown by the reco	is requested to apply the Issuublication Fee (if required) words of the United States Pate	te Fee and Publicat will not be accepted and Trademark	ion Fee (if any from anyone Office.	y) or to re-apply any previ other than the applicant; a	ously paid issue fee to the applic registered attorney or agent; or	cation identified above. the assignee or other party in
Authorized Signature		-		Date		
					on No.	
his collection of information application. Confidentiali	on is required by 37 CFR 1.3 ity is governed by 35 U.S.C.	11. The information 122 and 37 CFR 1	n is required to	o obtain or retain a benefit ection is estimated to take	by the public which is to file (a 12 minutes to complete, includ	nd by the USPTO to process) ing gathering, preparing, and

submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO. FILING DATE		LING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,655 05/08/2001		05/08/2001	Ephraim Zehavi	QCPA181ACAC	4391
23696	7590	05/10/2006		EXAM	INER
QUALCOMN	1, INC			NGUYEN, PHU	ONGCHAU BA
5775 MOREHO				ART UNIT	PAPER NUMBER
SAN DIEGO, (JA 92121			2616 DATE MAILED: 05/10/2000	5

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 623 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 623 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

	Application No.	Applicant(s)			
	00/851 655	ZEHAVI ET AL.			
Notice of Allowability	09/851,655 Examiner	Art Unit			
	Phuongchau Ba Nguyen	2616			
The MAILING DATE of this communication appeal claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT R of the Office or upon petition by the applicant. See 37 CFR 1.313	ears on the cover sheet with the (OR REMAINS) CLOSED in this a or other appropriate communicati IGHTS. This application is subject and MPEP 1308.	correspondence address application. If not included on will be mailed in due course. THIS t to withdrawal from issue at the initiative			
1. This communication is responsive to 7-23-3 amendment &	interview 4-24-6 & terminal discla	<u>imer 4-27-6</u> .			
2. A The allowed claim(s) is/are 6-29, 31-35, 37-39, 41-43, 45-4	47, 49. Renumbered as 1-39 respe	<u>ectively</u> .			
 3. ☐ Acknowledgment is made of a claim for foreign priority ur a) ☐ All b) ☐ Some* c) ☐ None of the: 1. ☐ Certified copies of the priority documents have 					
Certified copies of the priority documents have					
Copies of the certified copies of the priority do	· ·	·			
International Bureau (PCT Rule 17.2(a)).		o namenar eta g e approanen men me			
* Certified copies not received:					
Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONN THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.	MENT of this application.				
4. A SUBSTITUTE OATH OR DECLARATION must be subm INFORMAL PATENT APPLICATION (PTO-152) which give					
5. \square CORRECTED DRAWINGS (as "replacement sheets") must	st be submitted.				
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached					
1) hereto or 2) to Paper No./Mail Date					
 (b) ☐ including changes required by the attached Examiner's Paper No./Mail Date 					
Identifying indicia such as the application number (see 37 CFR 1 each sheet. Replacement sheet(s) should be labeled as such in t					
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.					
Attachment(s) 1. ☐ Notice of References Cited (PTO-892)	F □ Notice of Informal	Patent Application (PTO-152)			
 Notice of References Cited (PTO-692) Dotice of Draftperson's Patent Drawing Review (PTO-948) 	6. ⊠ Interview Summa	., , ,			
	Paper No./Mail D	ate <u>4-24-6</u> .			
 Information Disclosure Statements (PTO-1449 or PTO/SB/0 Paper No./Mail Date 	08), 7. ⊠ Examiner's Amen	dment/Comment			
4. Examiner's Comment Regarding Requirement for Deposit of Biological Material	8. 🛛 Examiner's Stater	ment of Reasons for Allowance			
	9. 🔲 Other				

EX AMDA

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EXAMINER'S AMENDMENT

- 1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
- 2. Authorization for this examiner's amendment was given in a telephone interview with Mr. Ogrod on 4-24-6.
- 3. The application has been amended as follows:

-Claim 29, line 13,

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---; wherein the first modulator is further configured to modulate said code sequence modulated traffic packet in accordance with a first pseudorandom noise (PN) sequence; and wherein the second modulator is further configured to modulate said at least one code sequence modulated overflowed packet in accordance with at least one additional PN sequence wherein said at least one additional PN

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sequence is non-orthogonal to said first PN sequence--- had been inserted after the word "sequences".

-Claim 31, line 1,

"30" had been changed to ---29---

-Claim 35, line 11,

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----; modulating said code sequence modulated traffic packet in accordance with a first pseudorandom noise (PN) sequence; modulating said at least one code sequence modulated overflow packet in accordance with at least one additional PN sequence wherein said at least one additional PN sequence is non-orthogonal to said first PN sequence; and transmitting said traffic packet on a traffic channel and transmitting at least one overflow packet on at least one overflow channel--- had been inserted before the ".".

-Claim 39, line 12,

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---means for modulating said code sequence modulated traffic packet in accordance with a first pseudorandom noise (PN) sequence; means for modulating said at least one code sequence

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modulated overflow packet in accordance with at least one additional PN sequence wherein said at least one additional PN sequence is non-orthogonal to said first PN sequence; and means for transmitting said traffic packet on a traffic channel and for transmitting at least one overflow packet on at least one overflow channel—— had been inserted before the ".".

-Claim 43, line 8,

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----; wherein said traffic demodulator is further configured to demodulated said traffic packet using a first pseudo-noise (PN) sequence to provide a demodulated traffic packet; and wherein said overflow demodulator is further configured to demodulated said overflow packet using a second pseudo-noise (PN) sequence to provide a demodulated overflow packet; wherein said first PN sequence is temporally offset and non-orthogonal to said second PN sequence--- had been inserted before the ".".

-Claim 45, line 1,

"44" had been changed to ---43---

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-Claim 47, line 7,

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---; demodulating said traffic packet using a first pseudo-noise (PN) sequence to provide a demodulated traffic packet; demodulating said overflowed packet using a second pseudo-noise (PN) sequence to provide a demodulated overflow packet; wherein said first PN sequence is temporally offset and non-orthogonal to said second PN sequence; and combining said demodulating said demodulated traffic packet and said demodulated overflowed packet to provide said variable rate packets---had been inserted after the word "sequence".

-Claim 49, line 7,



---; means for demodulating said traffic packet using first
pseudo-noise (PN) sequence to provide a demodulated traffic
packet; means for demodulating said overflow packet; wherein said
first PN sequence is temporally offset and non-orthogonal to said
second PN sequence; and means for combining said demodulated
traffic packet and said demodulated overflow packet to provide

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said variable rate packets--- had been inserted after the word "sequence".

-Claims 30, 36, 40, 44, 48 and 50 had been cancelled.

4. The following is an examiner's statement of reasons for allowance:

Regarding claims 6-10, the prior art fails to teach in code division multiple access (CDMA) communication system, wherein packets of data are transmitted using a plurality of orthogonal code sequences and wherein each user of code division multiple is allocated an orthogonal code sequence for communication on a traffic channel for transmitting variable rate packets of data symbols, an apparatus comprising "a second modulator configured to receive said at least one overflow packet and to modulate said at least one overflow packet in accordance with an orthogonal code sequence of said plurality of orthogonal code sequences and to modulate said at least one orthogonal modulated overflow packet in accordance with at least one additional pseudorandom noise (PN) sequence wherein said at least one additional PN sequence is non-orthogonal to said first PN sequence," which is

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considered in combination with other limitations, as specified in the independent claim 6.

Regarding claims 11-15, the prior art fails to teach an apparatus for transmitting variable rate packets of data symbols comprising "means for receiving said overflow packet and for modulating said overflow in accordance with a second orthogonal code sequence of said plurality of orthogonal code sequences and having a second output for providing said orthogonal code modulated overflow packet; means for receiving said orthogonal code modulated overflow packet and for modulating said orthogonal code modulated overflow packet in accordance with a second PN sequence with is nonorthogonal code modulated overflow packet in accordance with a second PN sequence which is non-orthogonal to said first PN sequence," which is considered in combination with other limitations, as specified in the independent claim 11.

Regarding claims 16-20, the prior art fails to teach an apparatus for transmitting variable rate packets of data symbols comprising "a second modulator having an input for receiving said second packet and for modulating

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said traffic packet in accordance with a second orthogonal code sequence of said plurality of orthogonal code sequences and having a second output for providing said orthogonal code modulated traffic packet; a second PN modulator having an input for receiving said orthogonal code modulated overflow packet and for modulating said orthogonal code modulated overflow packet in accordance with a second PN sequence which is non-orthogonal to said first PN sequence," which is considered in combination with other limitations, as specified in the independent claim 16.

Regarding claims 21–24, the prior art fails to teach an apparatus for transmitting variable rate packets of data symbols comprising "a second modulator having an input for receiving said overflow packet and for modulating said overflow packet in accordance with a second orthogonal code sequence of said plurality of orthogonal code sequences and having a second output for providing said orthogonal code modulated overflow packet; a second PN modulator having an input for receiving said orthogonal code modulated overflow packet and for modulating said orthogonal code modulated overflow packet in accordance with a second PN sequence with is non-orthogonal to said

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first PN sequence," which is considered in combination with other limitations, as specified in the independent claim 21.

Regarding claims 25-28, the prior art fails to teach in a system in which variable rate packets of data symbols including in excess of a threshold number of said data symbols are each transmitted as a traffic packet and an overflow packet, an apparatus for receiving said variable rate packets of data symbols comprising "an overflow demodulator configured to demodulate said overflow packet received by said apparatus using a second pseudo-noise (PN) sequence and a second sequence of said first set of orthogonal sequences to provide a demodulated overflow packets; said overflow demodulator dynamically allocated based on whether said variable rate packets of data symbols exceed a threshold number of said data symbols, wherein said first PN sequence is temporally offset and non-orthogonal to said second PN sequence," which is considered in combination with other limitations, as specified in the independent claim 25.

Regarding claims 29, 31-34, the prior art fails to teach an apparatus for transmitting variable rate packets of data symbols comprising "the first

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modulator is further configured to modulate said code sequence modulated traffic packet in accordance with a first pseudorandom noise (PN) sequence; and wherein the second modulator is further configured to modulate said at least one code sequence modulated overflowed packet in accordance with at least one additional PN sequence wherein said at least one additional PN sequence is non-orthogonal to said first PN sequence," which is considered in combination with other limitations, as specified in the independent claim 29.

Regarding claims 35, 37–38, the prior art fails to teach a method for transmitting variable rate packets of data symbols comprising "modulating said code sequence modulated traffic packet in accordance with a first pseudorandom noise (PN) sequence; modulating said at least one code sequence modulated overflow packet in accordance with at least one additional PN sequence wherein said at least one additional PN sequence is non-orthogonal to said first PN sequence; and transmitting said traffic packet on a traffic channel and transmitting at least one overflow packet on at least one overflow channel," which is considered in combination with other limitations, as specified in the independent claim 35.

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Regarding claims 39, 41–42, the prior art fails to teach an apparatus for transmitting variable rate packets of data symbols comprising "means for modulating said code sequence modulated traffic packet in accordance with a first pseudorandom noise (PN) sequence; means for modulating said at least one code sequence modulated overflow packet in accordance with at least one additional PN sequence wherein said at least one additional PN sequence is non–orthogonal to said first PN sequence; and means for transmitting said traffic packet on a traffic channel and for transmitting at least one overflow packet on at least one overflow channel," which is considered in combination with other limitations, as specified in the independent claim 39.

Regarding claims 43, 45–46, the prior art fails to teach an apparatus for receiving variable rate packets of data symbols transmitted as a traffic packet and an overflow packet, comprising "said traffic demodulator is further configured to demodulated said traffic packet using a first pseudo-noise (PN) sequence to provide a demodulated traffic packet; and wherein said overflow demodulator is further configured to demodulated said overflow packet using a second pseudo-noise (PN) sequence to provide a demodulated overflow packet;

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wherein said first PN sequence is temporally offset and non-orthogonal to said second PN sequence," which is considered in combination with other limitations, as specified in the independent claim 43.

Regarding claim 47, the prior art fails to teach a method for receiving variable rate packets of data symbols transmitted as a traffic packet and an overflow packet, comprising "demodulating said traffic packet using a first pseudo-noise (PN) sequence to provide a demodulated traffic packet; demodulating said overflowed packet using a second pseudo-noise (PN) sequence to provide a demodulated overflow packet; wherein said first PN sequence is temporally offset and non-orthogonal to said second PN sequence; and combining said demodulating said demodulated traffic packet and said demodulated overflowed packet to provide said variable rate packets," which is considered in combination with other limitations, as specified in the independent claim 47.

Regarding claim 49, the prior art fails to teach an apparatus for receiving variable rate packets of data symbols transmitted as a traffic packet and an overflow packet, comprising "means for demodulating said traffic packet using

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first pseudo-noise (PN) sequence to provide a demodulated traffic packet; means for demodulating said overflow packet; wherein said first PN sequence is temporally offset and non-orthogonal to said second PN sequence; and means for combining said demodulated traffic packet and said demodulated overflow packet to provide said variable rate packets," which is considered in combination with other limitations, as specified in the independent claim 49.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose telephone number is 571-272-3148. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 2:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7629. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phuongchau Ba Nguyen
Examiner

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